

ABSTRACT OF THE DISCLOSURE

A radio frequency (RF) amplifier system includes an RF power amplifier having an input and an output, and a typical gain of 1000 or more between the input and the output. An adaptive feedback channel is coupled between the input and the output of the RF power amplifier. The adaptive feedback channel receives as inputs audio signals for modulation of the input of the RF power amplifier, a frequency command word indicative of a desired frequency and phase of the RF amplifier system, and a control word indicative of a desired power level of the output of the RF power amplifier and of a mode of operation of the RF amplifier system. In response to the inputs, the adaptive feedback channel provides as an output a degenerative feedback signal to the input of the RF power amplifier.

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